

Tam Ceramics Inc.  
 4511 Hyde Park Blvd.  
 P.O. Box 0067  
 Niagara Falls, NY 14305-0067 U.S.A.

**Product:** MAGNESIUM ZIRCONIUM SILICATE  
**Internal ID:** 51425  
**MSDS No:** TAM CER / 51425  
**Date:** November, 1991

National Paint and Coatings Association  
 Hazardous Material Identification System

HEALTH HAZARD	1 - Slight
FLAMMABILITY HAZARD	0 - Minimal
REACTIVITY HAZARD	0 - Minimal
PERSONAL PROTECTION	TO BE SUPPLIED BY USER DEPENDING ON USE CONDITIONS.

**SECTION I. MATERIAL IDENTIFICATION**

**Trade/Material Name:** MAGNESIUM ZIRCONIUM SILICATE

**Description:** Double Silicate

**Manufacturer:** Tam Ceramics, Inc

**Phone:** (716) 278-9400

**SECTION II. INGREDIENTS AND HAZARDS**

<b>Ingredient Name:</b>	<b>CAS Number:</b>	<b>Percent:</b>	<b>Exposure Limits:</b>
Zircon (zirconium silicate)	14940-68-2	75	PEL (OSHA), TLV (ACGIH) For zirconium compounds (as Zr), the OSHA 8-hr TWA and ACGIH TLV-TWA is 5 mg/m <sup>3</sup> OSHA Final limit: TWA = 10 mg/m <sup>3</sup>
Magnesium Oxide	1309-48-4	15 - 20	ACGIH TLV-TWA: 10 mg/m <sup>3</sup> for total dust.
Titanium and ferrous minerals silicon dioxide, amorphous	10193-36-9	<0.5 5	OSHA Final limit: 0.05 mg/m <sup>3</sup>
silicon dioxide, crystalline	14808-60-7	<0.5	

Exposure limits for this product have not been established by OSHA or ACGIH. For particulates (not otherwise regulated), the OSHA 8 hour TWA is 5 mg/m<sup>3</sup> (respirable dust), and 15 mg/m<sup>3</sup> (total dust).



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### SECTION III. PHYSICAL DATA

**Appearance & Odor:** Free-flowing sand, white and black granules, odorless

**Boiling point:** Not applicable  
**Vapor pressure:** Not volatile  
**Water solubility (%):** Insoluble  
**Vapor density (air=1):** Not volatile  
**pH:** Not applicable

**Evaporation rate:** Not volatile  
**Specific gravity (H<sub>2</sub>O=1):** 4.5  
**Melting point:** 1590 to 1830°C  
**% volatile by volume:** Not volatile  
**Molecular weight:** \_\_\_\_\_

### SECTION IV. FIRE AND EXPLOSION DATA

**Flash Point (method):** Will not burn      **Limits: LEL %:** N/A      **UEL %:** N/A

**NFPA Flammable/Combustible Liquid Classification:** N/A

**NFPA Fire Hazard Symbol Codes:** Flammability: 0 Health: 0 Reactivity: 0 Special: -

**Extinguishing Media:** Use the extinguishing media that is appropriate for the combustible or flammable materials in the area of use.      **Autoignition Temp:** N/A

**Unusual fire or explosion hazards:** none

**Special fire-fighting procedures:** as appropriate for combustibles in the area of use.

### SECTION V. REACTIVITY DATA

Material is stable      Hazardous polymerization will not occur

**Chemical incompatibilities:** none known

**Conditions to avoid:** avoid creation of respirable dust

**Hazardous decomposition Products:** none known

### SECTION VI. HEALTH HAZARD INFORMATION

This product is not considered a carcinogen by IARC, group 2A. However, crystalline silica is considered a probable carcinogen by IARC (group 2A).

**Summary of risks:** see below

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HEALTH HAZARD INFORMATION continued from page 2

**First aid:**

**Eye contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

**Skin contact:** This material is not hazardous by skin contact, however thorough cleansing of the skin after use is advisable.

**Inhalation:** Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:** This compound is not hazardous by ingestion. However, if symptoms occur, call a physician.

This product, as shipped, may contain particles in the respirable size range. If broken down to respirable size during use, the particles may be harmful to the respiratory system when inhaled. This product contains trace quantities (100 to 120 µg/g) of naturally occurring uranium and thorium. Overexposure by inhalation of respirable dusts containing uranium and thorium may cause lung cancer. This product contains low levels of quartz, up to 0.5%. Dust released during normal handling can cause eye and respiratory irritation. Prolonged breathing of excessive concentrations of dust from this product may cause lung damage. This product contains crystalline silica which has been classified as a probable cause of cancer. IARC has classified crystalline silica as probably carcinogenic for humans (2A).

SECTION VII. SPILL, LEAK AND DISPOSAL PROCEDURES

**Spill / Leak procedures:** Sweep up spillage.

**Waste management / Disposal:** Comply with Federal, State, and local regulations. If approved, may be transferred to a land disposal site.

SECTION VIII. SPECIAL PROTECTION INFORMATION

**Personal protective equipment:**

**Goggles:** Safety glasses with side shields

**Gloves:** recommended

**Respirator:** NIOSH/MSHA approved air supplied abrasive blasting respirators should be worn by abrasive-blasting operators. NIOSH/MSHA approved filter respirators equipped with high-efficiency filters should be worn for occasional, intermittent, or routine exposures involving generation of respirable dust of this product.

Material Safety Data Sheet

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SPECIAL PROTECTION INFORMATION continued from page 3

Workplace considerations:

**Ventilation:** Airborne dust levels should be controlled by physical enclosure of operations that may generate respirable dust of this product. The enclosure should be exhaust ventilated in accordance with 29 CFR 1910.94.

SECTION IX. SPECIAL PRECAUTIONS

SARA TITLE III HAZARD CATEGORIES:

Extremely hazardous substance - No  
CERCLA Hazardous substance - No  
Toxic chemical - No

CANADIAN WHMIS CLASSIFICATION:

D-2A

CALIFORNIA PROP 65 WARNING:

This product contains substances (crystalline quartz and radionuclides) known to the State of California to cause cancer. Other ingredients are not listed as carcinogens by IARC, NTP, OSHA, or ACGIH.

DOT Class: not regulated by DOT

UN Register: \_\_\_\_\_

Data source code(s): Dupont MSDS H-06068-2 07/90

Prepared/revised by: R.H. Steiger  
Environmental/Safety Engineer

November, 1991

The information provided in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Component percentages are typical analyses based on historical production performance. Tam Ceramics does not make any expressed or implied warranty that future production will continue to possess these typical properties.